

RUBINCHIK, Yu.Sh.

The KT 38A-type thread cutting lathe. Biul.tekh.-ekon.inform.  
no.9:27-28 '58. (MIRA 11:10)  
(Screw-cutting machines)

USSR/Cultivated Plants - Medicinal, Essential Oil-Bearing. Toxins. M.

Abs Jour : Ref Zhur - Biol., No 10, 1958, 44375

Author : Rubins, Ye.A.

Inst : Riga Medical Institute.

Title : The European Chickweed (*Trientalis europaea L.*) as a Bearer of Steroid Saponins. Report 2. The Saponins and the Saponinins of the European *Trientalis*.

Orig Pub : Riga Med. Inst.; Sb. nauchn. rabot. Rizisk. med. in-ta, 1956, vyp. 6, 28-40

Abstract : This article describes the process of isolating the saponins and the saponinins from the European chickweed (*Trientalis europaea L.*, of the primrose family). Pure crystalline saponins were obtained in the form of anisotropic needles with a melting temperature of 317-321° and a hemolytic index of 500,000.

Card 1/ 3

USSR/Cultivated Plants - Medicinal. Essential Oil-Bearing. Toxins. M.

Adv Jour : Ref Zhar - Biol., No 10, 1958, 44375

The following were found in its glucon: glucose, galactose, mannose, xylose and arabinose. The saponins are extracted from the fresh plants rather than from the dry raw material. The yield of pure crystalline saponins is up to 1.3-1.5% of the dry weight of the chickweed. The weight relationships equalling 2:1 were determined in the molecular compounds of these saponins with cholesterol. The yield of saponins from the fresh plants amounts to 0.95% and to 0.62% from the dry raw material which corresponds to 2.6 and 1.7% of the saponins. The saponins are divided into three fractions with the following melting points: 150-160, 190-195 and 215-220°. Analysis of the IR spectrum of absorption shows an absence of the double bonds in the molecules of the saponins and it shows existence of 4-6 alcohol hydroxyl groups among which one group in the gemins of fraction I is not

Card 2/3

- 186 -

USSR/Cultivated Plants - Medicinal. Essential Oil-Bearing. Toxins. M.

Abs Jour : Ref Zhur - Biol., No 10, 1958, 44375

acetylated. The keto group was detected in all fractions. -- A.A. Zaytseva

Card 3/3

RUBINE, Ye. A. Cand Pharm. Sci -- (diss) "Pharmacognostic ~~Ex~~ Studies  
of the ~~Tropaeolum~~ <sup>Tropaeolum</sup> Europeae" Riga, 1957. 20 pp 20 cm. (Tartu  
State Inst), 200 copies (KL, 16-57, 101)

RUBINCHIK, Ye.Ye., inzh.-gidrokhimik

Data on the hydrochemistry of the Southern Caspian. Trudy VNIR  
38:152-164 '59.  
(Caspian Sea--Water--Composition)

ACC NR: AP6021816

(A)

SOURCE CODE: UR/0413/66/000/012/01097/0000

INVENTOR: Sinenko, N. P.; Mats, Z. Z.; Fayn, M. A.; Skazhennik, A. M.; Pavlov, V. A.;  
Rubinfayn, L. Ye.

ORG: None

TITLE: A unit for sealing turbine compressor bearings. Class 46, No. 182957 [announced by the Kharkov Transport Machine Building Plant im. V. A. Malyshew (Khar'kovskiy zavod transportnogo mashinostroyeniya)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 12, 1966, 109

TOPIC TAGS: sealing device, turbine compressor, journal bearing

ABSTRACT: This Author's Certificate introduces a unit for sealing turbine compressor bearings used in diesel engine blower systems. This unit contains labyrinth packings with air seals fed by compressed air from the turbine compressor during idling and low-load operation by connecting the air seals to the locomotive braking system which is coupled by an electromagnetic valve interlocked with the locomotive control system.

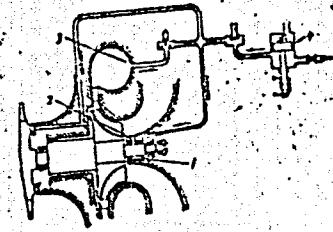
UDC: 621.515.5-762:62;621.436.052

Card 1/2

"APPROVED FOR RELEASE: 08/22/2000

CIA-RDP86-00513R001445820001-6

ACC NR. AF6021816



1--labyrinth packings; 2--air seals; 3--compressor shell; 4--electromagnetic valve

SUB CODE: 13/ SUBM DATE: 12Jun65

Card 2/2

APPROVED FOR RELEASE: 08/22/2000

CIA-RDP86-00513R001445820001-6"

ARESTEANU, L., dr.; NICOLAU, Silvia, chim.; RUBINGHER, Lidia, chim.;  
ANDREIAS, Cornelia, stud.; DULCEANU, Iosefina, assist. med.

Apropos of coexisting pancreatic disease in patients with chronic hepatitis and post-hepatitis liver cirrhosis. Value of the combined pancreozymin and secretin test. Med. intern. (Bucur.) 17 no.9:1111-1118 S '65.

1. Lucrare efectuata in Clinica medicala de semiologie, Spitalul "Dr. Carol Davila", Institutul medico-farmaceutic, Bucuresti (director: conf. S. Ciorpaciu).

RUBINIC, A.

"The geological structure of the Sedlarica area as revealed by deep drilling and prospecting!"  
p. ill. (NAFTA, Vol. 4, no. 4, Apr. 1953, Zagreb.)

SO: Monthly List of East European Accessions, Vol. 2, #8, Library of Congress  
August, 1953, Uncl.

RUBINIC, A.

Yugoslavia (430)

Technology

Determining the distance between wells in the Sumecani oil field. p. 123  
NAFTA. Vol. 3, no. 5, May 1952.

East European Accessions List. Library of Congress. Vol. 2, no. 3.  
March 1953. UNCLASSIFIED.

RUBINIC, Antun, prof.; KONTREC, Stjepan, inz.

Development and problems of prospecting and drilling for  
petroleum and natural gas in Croatia. Nafta Jug 13 no.  
11/12:282-292 N-D '62.

1. Naftaplin Research Institute, Zagreb.

RUBINIC, Antun, prof.; KONTREC, Stjepan, inz.

Prospecting and drilling for oil and gas in Croatia; development and problems. Nafta jug 13 no.11/12:282-293 N.D. '62.

1. "Naftaplin" Research Institute, Zagreb.

RUBINIC, Antun, prof. (Zagreb)

The temperature relationships in the Pannonian basin of Croatia.  
Nafta Jug 12 no.10:257-261 O '61.

1. Naftaplin, Zagreb.

RUBINIC, L.

Distr: 4E2c

✓ The corrosive behavior of magnesium and its presentation  
in  $\text{I}-\text{pH}$  diagrams upon inhibiting and activating its solution.  
T. Markovic and L. Rubinic (Univ. Zagreb, Yugoslavia).  
Werkstoff's u. Korrosion 9, 387-9 (1958).—A review article  
with fifteen references. Frederick S. Lee

bm *[Signature]*

5

RUBININ, A.

Colonies and the "common market" [with English summary in insert]Vnesh.torg. 28 no.10:13-19 '58. (MIRA 11:12)  
(Africa--French colonies--Foreign economic relations)

RUBININ, A.

Imperialist Eurafican plans. Vnesh. torg. 42 no.9:25-32 '62.  
(MIRA 15:9).  
(Europe, Western—Foreign Economic Relations—Africa)  
(Africa—Foreign Economic Relations—Europe, Western)  
(European Economic Community)

POLYANIN, D.V.; ZOTOV, G.M.; GRYAZNOV, E.A.; MENZHINSKIY, Ye.A.; RUBININ,  
A.Ye.; CHEBOTAREVA, Ye.D.; ZAKHMATOV, M.I.; OKUNEVA, L.P.;  
SHMELEV, V.V.; STULOV, A.A.; POKROVSKIY, A.N.; SHIL'DKRUT, V.A.;  
IVANOV, A.S.; NABOROV, V.B.; FINOGENOV, V.P.; KUR'YEROV, V.G.;  
KHRAMTSOV, B.A.; BATYGIN, K.S.; BOGDANOV, O.S.; KROTOV, O.K.;  
GONCHAROV, A.N.; KRESTOV, B.D.; LYUBSKIY, M.S.; SOKOL'NIKOV,  
G.O.; KAMENSKIY, N.N.; YASHCHENKO, G.I.; SAHEL'NIKOV, L.V.;  
GERCHIKOVA, I.N.; FEDOROV, B.A.; STEPANOV, G.P.; BORODAYEVSKIY,  
A.D.; INGATUSHCHENKO, S.K.; VARTUMYAN, E.L.; KAPELINSKIY, Yu.N.,  
red.; MAYOROV, B.V., red.; NABOROV, V.B., red.; SOLODKIN, R.Q.,  
red.; DROZDOV, A.G., red.; ROSHCHINA, L., red.; SOLOV'YEVA, G.,  
mladshiy red.; CHEPELEVA, O., tekhn. red.

[The economy of capitalist countries in 1961; economically developed countries] Ekonomika kapitalisticheskikh stran v 1961 godu; ekonomicheski razvitye strany. Pod red. Iu.N. Kapelinskogo. Moskva, Sotsekgiz, 1962. 447 p. (MIRA 16:2)  
(Economic history)

RUBININ, A.

Contradictions in Western Europe intensify. Vnesh. torg. 41  
no.8:12-20 '61. (MIRA 14:8)  
(Europe, Western—Commerce)

RUBININ, A.

Crisis of the "zone of the seven." Vnesh.torg. 42 no.1:29-31  
'62. (MIRA 15:1)  
(European common market) (Great Britain--Foreign economic relations)

RUBININ, M. V.

Strains and Stresses

Circle of deformation and its utilization in experimental determination of tension. Inzh. sbor. 10, 1951.

Monthly List of Russian Accessions, Library of Congress, May 1952.

Unclassified.

RUBININ, M. V.

USSR600

Strength of Materials

"Manual of practical exercises in strength of materials." Reviewed by A.S. Grigor'yev.  
Prikl. mat. i mekh. 16 no. 1, 1952

9. Monthly List of Russian Accessions, Library of Congress, June 1957. Unclassified.

2

RUBININ, M. V.

PHASE I

TREASURE ISLAND BIBLIOGRAPHICAL REPORT

AID 310 - I

BOOK

Call No.: AF589928

Author: RUBININ, M. V.

Full Title: TEXTBOOK FOR PRACTICAL STUDIES IN THE STRENGTH OF MATERIALS

Part I, second revised and supplemented edition

Transliterated Title: Rukovodstvo k prakticheskim zanyatiyam po  
soprotivleniyu materialov, Chast' I.

Publishing Data

Originating Agency: None

Publishing House: State Scientific and Technical Publishing House for  
Machine-Building Literature (MASHGIZ)

Date: 1953

No. pp.: 307

No. of copies: 10,000

Editorial Staff

Editor: Levit, M. A., Dotsent

Tech. Ed.: None

Editor-in-Chief: Aksel'rod, P. S.

Appraisers: Prof.

Kiselev, V. A., Dr. of

Tech. Sci., Prof. Popov,

A. A., Dr. of Tech. Sci.

Text Data

Coverage: This is the first part of a textbook for a course in the  
strength of materials. Problems are explained theoretically;  
applications of the theory follow. The major part of this

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Rukovodstvo k prakticheskim zanyatiyam po soprotivleniyu materialov, Chast' I AID 310 - I

textbook consists of these numerical applications. Diagrams, graphs, tables, etc.

This is a very good, easy to follow textbook.

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4. Determination of the Reaction of Supports under the Action of Concentrated and Scattered Loads	16-20
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Rukovodstvo k prakticheskim zanyatiyam po soprotivleniyu materialov, Chast' I

AID 310 - I

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Rukovodstvo k prakticheskim zanyatiyam po soprotivleniyu materialov, Chast' I

AID 310 - I  
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27. Stresses in Cross Sections in Case of a Transversal Bending in the Plane of Symmetry of the Beam	195-204
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Rukovodstvo k prakticheskim zanyatiyam po soprotiv- AID 310. - I  
leniyu materialov, Chast' I

Purpose: Textbook for students of machine building institutions of  
higher learning.

Facilities: None

No. of Russian and Slavic References: Two prior to 1940, and 6 after  
that date, mentioned in foot-notes

Available: A.I.D., Library of Congress.

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KUBININ, M. V.

PHASE I

TREASURE ISLAND BIBLIOGRAPHICAL REPORT

AID 304 - I

BOOK

Call No. AF592989

Author: RUBININ, M. V.

Full Title: MANUAL FOR PRACTICAL STUDIES ON THE STRENGTH OF MATERIALS

Part II, Second revised and supplemented edition

Transliterated Title: Rukovodstvo k prakticheskim zanyatiyam po soprotivleniyu  
materialov, chast' II

Publishing Data

Originating Agency: None

Publishing House: State Scientific and Technical Publishing House, for the  
Machine- and Shipbuilding Literature (MASHGIZ)

Date: 1953

No. pp.: 310

No. of copies: 10,000

Editorial Staff

Editor: Levit, M. A., Dotsent

Tech. Ed.: None

Editor-in-Chief: Aksel'rod, P. S.

Appraisers: Kiselev, V. A.,

Prof., Dr. of Technical Sciences

Popov, A. A., Prof., Dr. of Technical Sciences

Others: None

Text Data

Coverage: This textbook is the second and final part of a course in mechanics of  
materials in which the author considers methods and technique for the  
solution of problems of the strength of materials.

The book is divided into 14 Chapters as follows:

1/3

Rukovodstvo k prakticheskim zanyatiyam po soprotivleniyu materialov, chast' II

AID 304 - I

1. Energy method of determining displacement in elastic systems
2. Statically indeterminate systems
3. Strength calculation in case of a combined stress condition
4. Thin-walled containers
5. Thick-walled pipes
6. Bending of a curved beam
7. Bending of beams with variable sections
8. Longitudinal bending
9. Longitudinal and transversal bending
10. Calculation of tensions in moving members
11. Shock action of a force
12. Strength calculation in case of variable stresses
13. Strength calculation in case of a vibrating beam
14. Strength calculation in case when the capability of plastic deformation of the material is taken into account

At the end of the book, an appendix gives the characteristics of several kinds of steel.

The book contains 70 problems from the field of general strength of materials. At the beginning of each chapter the theory is briefly explained, and then the applications of the theory follow. The book is well presented, and provided with numerous clear diagrams.

2/3

Rukovodstvo k prakticheskim zanyatiyam po soprotivleniyu  
materialov, chast' II

AID 304 - I

Purpose: Textbook for students of machine building institutions of higher education.

Facilities: None

No. of Russian and Slavic References: 12 prior to 1938, and 18 after this date.

Available: A.I.D., Library of Congress

3/3

RUBININ, M.V.

Rubinin, M.V.

"Guidance for the Practical Understanding of the Strength of Materials"  
(two parts)

Moscow Institute of Chemical  
Machine Building

RUBININ, M. V.

POPOV, Aleksey Aleksandrovich, doktor tekhnicheskikh nauk, professor;  
NIKOL'SKIY, L.N., doktor tekhnicheskikh nauk, retsenzent; RUBININ,  
M.V., kandidat tekhnicheskikh nauk, retsenzent; AFANAS'YEV, A.M.,  
kandidat tekhnicheskikh nauk, redaktor; MATVEYEVA, Ye.N., tekhnicheskiy  
redaktor

[Strength of materials; theory and practice] Soprotivlenie materialov;  
teoriia i zadachi. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit,  
lit-ry, 1956. 475 p. (MLRA 10:2)

(Strength of materials)

RUBININ, Mikhail Vladimirovich; LEVIT, M.A., dotsent, redaktor; NAKHIMSON,  
V.A., redaktor-izdatel'stva; MODEL', B.I., tekhnicheskiy redaktor

[Manual on the practical study of the strength of materials]  
Rukovodstvo k prakticheskim zaniatiiam po soprotivleniu materialov.  
Izd. 3-e. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry,  
1957. 603 p. (MLRA 10:9)  
(Strength of materials)

RUBININ, Mikhail Vladimirovich; KOPYLENKO, V.P., kand. tekhn. nauk, dots.,  
retsenzent; SAVEL'YEV, N.G., kand. tekhn. nauk, dots., retsenzent;  
GRIGOLYUK, E.I., dots., retsenzent; YANUSHEVICH, Ye.S., kand. tekhn.  
nauk, dots., red.; SAVEL'YEV, Ye.Ya., red. izd-va; CHERNOVA, Z.I.,  
tekhn. red.

[Strength of materials; theory] Soprotivlenie materialov; teoriia.  
Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961.  
(MIRA 14:10)  
467 p.

1. Chlen-korrespondent AN SSSR (for Grigolyuk).  
(Strength of materials)

RUBININ, A.

On the establishment of the "European Free Trade Association".  
Vnesh. torg. 30 no.2:27-33 '60.  
(MIRA 13:2)  
(European Free Trade Association)

RuBiniN, M. V.  
RUBININ, MIKHAIL VLADIMIROVICH

N/5  
615.12  
.R8

Rukovodstvo k prakticheskim zanyatiyam po soprotivleniyu  
materialov (Guide to practical studies on the strength of materials)  
Moskva, Mashgiz, 19

v. diagrs.

Second edition issued in 2 vols.

Lib. has: 1953, v. 1 (2d ed.)

v. 2  
1957 (3d. ed.)

RATINOV, V.B.; ROZENBERG, T.I.; RUBININA, N.M.; MELENT'YEVA, G.G.

Mechanism of the crystallization of cement stone components.  
Dokl. AN SSSR 136 no.6:1407-1409 F '61. (MIRA 14:3)

1. Predstavleno akademikom P. A. Rebinderom.  
(Cement)

RATINOV, V.B.; ROZENBERG, T.I.; RUBININA, N.M.

Crystallization kinetics of calcium aluminate hydrosulfate.  
Dokl.AN SSSR 145 no.5:1089-1091 '62. (MIRA 15:8)

1. Nauchno-issledovatel'skiy institut zhelezobetonnykh izdeliy  
stroitel'nykh i nerudnykh materialov. Predstavлено akademikom  
P.A.Rebinderom.  
(Calcium aluminate sulfate) (Crystallization)

RUBINNIK, S.M., YAKOVLEV, M.F.

Socialist competition in the trades. Khim.prom. no.8:498-499 '54.  
(MIRA 8:7)

1. Tsentral'nyy komitet Profsoyusa khimicheskoy promyshlennosti.  
(Chemical industries)

RUBINOV, A.

The organization of housing services offices. Zhil.-kom. khoz.  
7 no.6:1-3 '57. (MIREA 10:10)  
(Municipal services)

RUBINOV, A.

The vacuum cleaner in home management. Zdorov'e 2 no.3:27 Mr '56.  
(MLRA 9:6)

(VACUUM CLEANING)

"APPROVED FOR RELEASE: 08/22/2000

CIA-RDP86-00513R001445820001-6

RUBINOV, A.

True helpers. Zdorov'e 1 no.10:23 0 '55

(MIRA 9:5)

(PUBLIC HEALTH) (SANITATION, HOUSEHOLD)

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CIA-RDP86-00513R001445820001-6"

RUBINOV, A.

N/5  
7-11-22  
.REF1

ANALYST, A. D.

TOCHKHOV KONTROL'NO-IZMERITEL'NYY  
INSTRUMENT (TESTING AND MEASURING  
INSTRUMENT USED IN SHOPS, NY) A. D.  
RUBINOV I. F. I. ABADZHI. LENINGRAD,  
PASHHEZ, 1957.  
203 P. ILLUS., DIAGRS., TABLES.  
BIBLIOGRAPHY: P. 202.

RUBINOV, A.

Bureau of good services. Mest.prom.i khud.promys. 2 no.10:  
33 0 '61. (MIRA 14:11)  
(Moscow--Service industries)

RUBINOV, A.

Manual street sweeping machine. Zhil.-kom. khos. 3 no.5:27 My '53.  
(MLRA 6:7)  
(Street cleaning)

RUBINOV, A.

Building Research

Innovators in the capital's housing administration. Zhil. - kom. khoz. 2, no. 2, 1952

Monthly List of Russian Accessions, Library of  
of Congress, August 1952, Unclassified

RUBINOV, A.

Stars are rising in Moscow. Rabotn. a. 40 no.6:24 Je '62.  
(MIRA 16:3)  
(Women as musicians)

NOSOV, R.P., *glav. red.*; POLONSKIY, G.A., *red.*; USTINOV, A.D.,  
*red.*; FRENKEL', G.Ya., *red.*; RUBINOV, A.B., *red.*; KHRISTENKO, V.P., *red.*; BORUNOV, N.I., *tekhn. red.*

[Protection of metal structures and mechanical equipment  
against corrosion in hydraulic engineering; from materials  
of a conference held by the "Gidromontazh" Trust of the  
Ministry of Electric Plant Construction of the U.S.S.R. on  
24-26 June. 1960] Zashchita metallokonstruktsii i mekhanicheskogo  
oborudovaniia gidrotekhnicheskikh sooruzhenii ot korrozii;  
po materialam soveshchaniia, provedennogo trestom  
"Gidromontazh" Ministerstva stroitel'stva elektrostantsii  
SSSR 24-26 iiunia 1960 g. Moskva, Gosenergoizdat, 1961. 55 p.  
(MIRA 15:7)

(Hydraulic structures—Corrosion) (Protective coatings)

KUDIMOV, A.P., inzh.

Concentration of gravel in a heavy suspension. Energ. stroi. za rub.  
no.2:67-71 '59. (MIFI A 14:2)

1. Moskovskiy filial instituta "Orgenergostroy."  
(United States—Gravel) (Canada—Gravel)

ABADZHI, Kirill Ivanovich; DRUZHININ, Boris Ivanovich; ISAYEV,  
Boris Ivanovich; RUBINOV, A.D., kand. tekhn. nauk,  
retsenzent; TUMANOV, L.P., inzh., red.; LEYKINA, T.L.,  
red. izd-va; PETERSON, M.M., tekhn. red.

[Checking relative positions of machine-part surfaces]  
Kontrol' vzaimnogo raspolozheniya poverkhnostei detalei  
mashin. Moskva, Mashgiz, 1962. 113 p. (MIRA 15:10)  
(Machinery--Construction) (Measuring instruments)

S/115/60/000/008/002/013  
B019/B063

AUTHOR: Rubinov, A. D.

TITLE: Measurement of Large Diameters by the Method of "Encircling"

PERIODICAL: Izmeritel'naya tekhnika, 1960, No. 8, pp. 4-6

TEXT: The present paper describes a tape-measuring technique that is more accurate than the ordinary tape measure often used for measuring turned pieces of large diameter. A metal tape is used, the length of which is adapted to the circumference corresponding to the diameter to be measured. Metallic balls are soldered onto the ends of this metal tape, so that they come to lie on the outside of the tape in appropriate intervals when the tape is laid round the diameter circumference to be measured. The spacing of these balls is measured by means of a micrometer shown in Figs. 1 and 2. As the spacing of the balls on a plane metal tape is known, the diameter can be determined more accurately than with an ordinary tape measure if the geometric position of the two balls on the circle is taken into account. Next, formulas are derived for calculating the diameter from the measured distance on the balls on the circle circumference of the turned piece. ✓

Card 1/2

Measurement of Large Diameters by the Method of S/115/60/000/008/002/013  
"Encircling" B019/B063

These formulas are applicable if the distance between the balls on a plane metal tape is known. Errors arise from differences in the tension of the tape, temperature errors, errors in the measurement of the distance between the balls, etc. The error in measurement per 1 m of diameter is  $\pm .15$  microns. There are 2 figures, 1 table, and 1 Soviet reference. ✓

Card 2/2

ABADZHI, K.I.; BOYTSOV, A.N.; VOLOSEVICH, F.P.; GOBERMAN, P.N.;  
KEMPINSKIY, M.M.; KUTAY, A.K.; NARINSKIY, F.I.; ODING,  
G.A.; TAYTS, B.A.; RUBINOV, A.D.; SHTYURMER, G.A.;  
BRZHEZINSKIY, M.L., kand. tekhn. nauk, retsenzent;  
SHALAYEVSKIY, O.V., red.; LEYKINA, T.L., red.izd-va;  
SPERANSKAYA, O.V., tekhn. red.

[Handbook on production control in the machinery industry]  
Spravochnik po proizvodstvennomu kontroliu v mashinostro-  
enii. Izd.2., perer. i dop. Moskva, Mashgiz, 1964. 748 p.  
(MIRA 17:3)

"APPROVED FOR RELEASE: 08/22/2000

CIA-RDP86-00513R001445820001-6

RUBINOV, A.D., kand.tekhn.nauk, dotsent

Measurement of large diameters in machining parts. Vziam.i  
tekh. izm.v.mashinostr.; mezhvuz.sbor. no.3:346-353 !61.  
(MIRA 14:8)

(Length measurement)

APPROVED FOR RELEASE: 08/22/2000

CIA-RDP86-00513R001445820001-6"

RUBINOV, A.D., kand. tekhn. nauk.

New techniques for making large-scale measurements. Mashinostroitel'  
no.1:37-39 Ja '58. (MIRA 11:1)

(Measuring instruments)

RUBINOV, Aleksandr Davidovich, KUTAY, A.K., kand.tekhn.nauk, dots., retsenzent,  
KHUDARKOVSKIY, N.P., inzh.retsenzent., ABADZHI, K.I., inzh.red.;  
BORODULINA, I.A., red.; POL'SKAYA, R.G. tekhn.red.

[Organizing and carrying out laboratory work in the subject "Tolerances, fits, and engineering measurements."] Organizatsiia i provedenia laboratornykh robot po predmetu "Dopuski, posadki i tekhnicheskie izmereniia." Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 150 p. (MIRA 11:9)

(Tolerance (Engineering))

(Mensuration)

(Engineering)

AUTHOR:

Rubinov, A.D.

SOV/115-58-1-5/50

TITLE:

Measuring the Eccentricity of Piece Parts Positioned in Centers  
(Izmereniye ekstsentrisiteta izdeliy, ustanavlivayemykh v  
tsentrakh)

PERIODICAL:

Izmeritel'naya tekhnika, 1958, Nr 1, pp 12 - 16 (USSR)

ABSTRACT:

One of the most common methods of checking the eccentricity of cylindrical shafts is by measuring the radial wobbling of a shaft positioned in centers. The work will be turned under the indicator feeler, and the algebraic difference of readings, divided by two, will be accepted as the real value of the eccentricity. However, the radial wobbling may be caused not only by non-concentricity of the geometric shaft axis with the rotation axis, but also by non-roundness (oval shape) of a shaft, and some authors point out that these two different causes of wobbling must be measured separately with two indicators. The author proves that the eccentricity of cylindrical shafts can be checked accurately with one indicator, used in connection with complex equations, for dif-

Card 1/2

SOV/115-58-1-5/50

**Measuring the Excentricity of Piece Parts Positioned in Centers**

ferent positions of the geometric shaft axis in relation to the center of ratation, as well as for the case of oval shape. There are 4 sets of diagrams and 3 tables.

1. Shafts--Measurement
2. Concentricity indicators--Performance

Card 2/2

25(2)

PHASE I BOOK EXPLOITATION

SOV/1994

Rubinov, Aleksandr Davidovich

Izmereniye bol'sikh razmerov v mashinostroyenii (Measuring Large Dimensions in Mechanical Engineering) 2d ed., rev. and enl. Moscow, Mashgiz, 1959. 161 p. Errata slip inserted. 4,000 copies printed.

Reviewer: L.K. Kayak, Candidate of Technical Sciences; Ed.: K.I. Abadzhi, Engineer; Ed. of Publishing House: I.A. Borodulina; Tech. Ed.: L.V. Sokolova; Managing Ed. for Literature on the Technology of Machine Building (Leningrad Division, Mashgiz): Ye.P. Naumov, Engineer.

PURPOSE: This book is intended for engineers and engineering personnel working in the field of technical measurement and for workers in technical control divisions and measurement laboratories of heavy machine-building mills.

COVERAGE: The book describes and classifies existing methods and means of measuring inner and outer dimensions in the range of 500 to 12,000 mm. Results of investigations of various measurement methods and measurement instruments, and data on their accuracy are presented. The author suggests

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**Measuring Large Dimensions (Cont.)**

SOV/1994

ways of selecting the most efficient methods and means of measurements, the methods of checking the accuracy of instruments, and preparation of measuring control charts. S. Kh. Kopelevich and F. I. Narniskiy are mentioned as contributors to this work. There are 48 references; 34 Soviet, 8 English, 4 German, 1 Polish, and 1 Swedish.

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2. Internal measurement gages	9
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## Measuring Large Dimensions (Cont.)

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**Measuring Large Dimensions (Cont.)**

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28. Selecting an efficient method and the means for measurement	161
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AVAILABLE: Library of Congress	
Card 4/4	

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7-27-59

25(1)

PHASE I BOOK EXPLOITATION

SOV/1725

Rubinov, Aleksandr Davidovich

Organizatsiya i provedeniye laboratornykh rabot po predmetu "Dopuski, posadki i tekhnicheskiye izmereniya" (Organizing and Conducting Laboratory Work on the Subject "Tolerance, Fit and Technical Measurements") Moscow, Mashgiz, 1958. 149 p. 25,000 copies printed.

Reviewers: A.K. Kutay, Candidate of Technical Sciences, Docent; and N.P. Khudarkovskiy, Engineer; Ed.: K.I. Abadzhii; Ed. of Publishing House: I.A. Borodulina; Tech. Ed.: R.G. Pol'skaya.

PURPOSE: This manual is for students of machine-building teknikums.

COVERAGE: This book contains ten laboratory experiments designed to acquaint students with the most common industrial measuring instruments and gages. The proper use of gages is discussed and calipers, indicators, micrometers, and more complex measuring devices are described along with directions for the proper sequence

Card 1/3

Organizing and Conducting Laboratory Work (Cont.) SOV/1725

in experimental laboratory work. The appropriate measuring instruments and techniques for measuring screw threads, angles, and gears are extensively described and illustrated. The book contains basic formulas and tables for laboratory reports. No personalities are mentioned. There are 9 Soviet references.

TABLE OF CONTENTS:

Foreword	3
General Instructions for Organization and Methods of Doing Laboratory Work	5
Plain Gages. Laboratory Experiment No. 1	10
Thread Gages. Laboratory Experiment No. 2	18
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Organizing and Conducting Laboratory Work (Cont.)	SOV/1725
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Optical Measuring Devices. Laboratory Experiment No. 7	88
Devices for Angular Measurement and for Measuring Tapers. Laboratory Experiment No. 8	103
Screw-thread Gages. Laboratory Experiment No. 9	111
Devices for Measuring the Elements of Spur Gears. Laboratory Experiment No. 10	129
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AVAILABLE: Library of Congress

Card 3/3

G0/ad  
6-18-59

RUBINOV, A. D.

Rubinov, A. D. (Leningrad). Survey of Foreign Literature on Large-scale Measurements  
p. 195

Interchangeability, Accuracy and Measuring Methods in Machine Building, Moscow,  
Mashgiz, 1958, 251 pp. (Sbornik Nauchno-tekh. obshch. mashinostroitel'noy  
promyshlennosti, Leningradskoye oblast pravleniya, kn. 47).

This collection of articles deals with the topics discussed at the 3rd  
Leningrad Sci. and Engineering Conference on Interchangeability, accuracy and  
Inspection Methods in Machine-building and Instrument-making, held 18-22 Mar 1957.

HUBINOV, Aleksandr Davidovich; KAYAK, L.K., kand.tekhn.nauk, retsenzent;  
ARMZHI, I.T., inzh., red.; BORODULINA, I.A., red.izd-va; SOKOLOVA,  
L.V., tekhn.red.;

[Large-scale measurements in the machinery industry] Izmerenie  
bol'shikh razmerov v mashinostroenii. Izd.2., perer. i dop.  
Moskva, Gos.suchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 182 p.  
(MIRA 12:3)

(Machinery--Measurement) (Gauges)

S/263/62/000/002/001/009  
1010/I210

AUTHOR

Rubinov, A. D.

TITLE:

Measuring of large diameters in machine processing

PERIODICAL

Referativnyy zhurnal, otdel'nyy vypusk. Izmeritel'naya tekhnika, no. 2, 1962, 7, abstract 32.2.51. "Vzaimozamenyaemost' i tekhn. izmereniya v mashinostr." no. 3, M., Mashgiz, 1961, 346-353

TEXT: The possibility of application of existing means of measurements for checking large diameters in the process of machining and also the use of some types of single-contact, triple-contact, and no-contact instruments is discussed. Double-contact instruments, as well as those with fixed gauges, may not be used for elements with diameters greater than 1000 mm. Size readings may be done by means of mechanical, electrical, or pneumatic gadgets. In order to eliminate the wear and tear of the measuring and supporting surfaces, use of no-contact measuring methods is suggested. The difficulties of using photoelectric, pneumatic, and electrical methods are mentioned. The use of optical measuring methods, among them the method of triangulation, and a distant one, are recommended. Both methods are described briefly. There are 4 figures and 5 references.

VB

[Abstracter's note: Complete translation.]

Card 1/1

RUBINOV, A.D.

Measuring the eccentricity of workpieces mounted in centers. Izm.  
tekhn. no.1:12-16 Ja-F '58. (MIRA 11:2)  
(Physical measurements)

RUBINOV, A. D. (Leningrad)

Review of foreign publications on large-scale measurements.  
[Izd.] LONITOMASH 47:195-202 '58. (MIRA 11:10)  
(Measuring instruments)

RUBINOV, A.D., ABADZHI, K.I.; MITROFANOV, V.P., inzhener, retsentent;  
NARINSKIY, F.I., kandidat tekhnicheskikh nauk, redaktor; SOKOLOVA,  
L.V., tekhnicheskiy redaktor

[Control and measuring instruments in the shop] TSekhovoi kontrol'no-  
izmeritel'nyi instrument. Moskva, Gos. nauchno-tekhn. izd-vo  
mashinostroit. lit-ry, 1957. 203 p.  
(MLRA 10:5)  
(Measuring instruments)

ABADZHI, K.I.; BOYTSOV, A.N.; VOLOSEVICH, F.P.; GOBERMAN, P.N.; KUTAY, A.K.; MARINSKIY, F.I.; ODING, G.A.; RUBINOV, A.D.; SHTYURMER, G.A.; BRZHIZINSKIY, M.L., kandidat tekhnicheskikh nauk, retsenzent; PETROV, V.I., inzhener, retsenzent; KEMPINSKIY, M.M., inzhener, redaktor; LEYKINA, T.L., redaktor izdatel'stva; POL'SKAYA, R.G., tekhnicheskiy redaktor

[Reference manual for production control in machine building] Spravochnik po proizvodstvennomu kontrolu v mashinostroenii. Pod obshchey red. A.K.Kutai. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 670 p.,  
(Machinery industry)

(MIRA 9:12)

L 15780-65 EWT(d) LWP(c)/ESD(dp)  
ACCESSION NR: AP4049006

S/0043/64/000/004/0005/0017

B

AUTHORS: Dem'yanov, V. F.; Rubinov, A. M.

TITLE: Minimization of a smooth convex functional on a convex set

SOURCE: Leningrad. Universitet. Vestnik. Seriya matematiki, mekhaniki i  
astronomii, no. 4, 1964, 5-17

TOPIC TAGS: convex function, Banach space, successive approximation, optimum  
control

ABSTRACT: Consider the Banach space  $X$  on which a convex functional  $f$  with gradient  $F$  is given. Let  $F$  have derivative  $F'$ ; for definitions, see M. M. Vaynberg (Variatsionnye metody issledovaniya nelineynykh operatorov. M., GTTI, 1956). Let  $\Omega$  be a convex, closed, bounded set;  $\Omega \subset X$ . The problem is to find  $y \in \Omega$  such that

$$f(y) = \min_{x \in \Omega} f(x). \quad (1)$$

Theorem 1: In order for the convex differentiable functional  $f$  to attain a minimum on  $\Omega$  at the point  $y$ , it is necessary and sufficient that this point be a solution of the equation

$$\langle \bar{x} - x, Fx \rangle = 0. \quad (2)$$

An arbitrary point  $x_1 \in \Omega$  is chosen as the first approximation. Suppose the

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ACCESSION NR: AP4049006

element  $x_n$  has been constructed. Then  $\bar{x}_n$  is found, and the function  $g_n(\alpha)$  is set up; it is defined for  $\alpha \in [0,1]$  by

$$g_n(\alpha) = f(\bar{x}_n + \alpha(x_n - \bar{x}_n)); \quad (3)$$

$g_n(\alpha)$  is a convex function and attains a minimum on  $[0,1]$  at a point denoted by  $\alpha'_n$ . Then suppose  $x_{n+1} = \bar{x}_n + \alpha'_n(x_n - \bar{x}_n)$ . Thus a sequence is constructed

$$\begin{matrix} x_1, & x_2, & \dots, & x_n, & \dots \\ \bar{x}_1, & \bar{x}_2, & \dots, & \bar{x}_n, & \dots \end{matrix} \quad (4)$$

Theorem 2: Suppose the convex functional  $f$  is bounded from below on  $\Omega$  and has a differentiable gradient  $F$  there, where  $F'$  is bounded on  $\Omega$ . Suppose  $f$  attains a minimum on  $\Omega$  at  $y$ . Then  $f(x_n) \rightarrow f(y) = \min_{x \in \Omega} f(x)$ . The authors construct successive approximations to avoid certain infinite procedures and prove that this also yields the desired minimum in the limit. They then specialize to the case of a linear set. The theory is applied to optimization problems in automatic control and problems in approximation theory and integer programming. Orig. art. has: 46 formulas.

ASSOCIATION: none

Card 2/3

L 15780-65  
ACCESSION NR: AP4049006

SUBMITTED: 05Apr63

ENCL: 00

SUB CODE: MA

NO REF Sov: 005

OTHER: 000

Card 3/3

RUBINOV, A.M.

Minimization of a norm on a compact. Vest. IGU 20 no.1:140-142  
165. (MIR 18:2)

DEM'YANOV, V.F.; RUBINOV, A.M.

Problem of the minimization of a smooth functional with convex  
limitations. Dokl. AN SSSR 176 no. 1 1967. p. 105.

(MIR 18:2)

Leningradskiy gosudarstvennyy universitet im. A.I. Zhdanova.  
Submitted June 26, 1964.

DEM'YANOV, V.F.; RUBINOV, A.M.

Minimization of a smooth convex functional on a convex set.

Vest. LGU 19 no.19:5-17 '64.

(MIRA 17:11)

AKILOV, G.P.; RUBINOV, A.M.

Finding the best approximation polynomial by the method of  
successive approximations. Dokl. AN SSSR 157 no.3:503-505  
Jl '64. (MIRA 17:7)

1. Leningradskiy gosudarstvennyy universitet imeni A.A. Zhdanova.  
Predstavлено akademikom V.I. Smirnovym.

RUBINOV. A.N.; MIKHNOV. S.A.

Change in the emission spectrum of a finite volume in passing the  
inversion point. Dokl. AN BSSR 9 no.1:18-21 Ja '65.

(MIRA 18:10)

1. Institut fiziki AN BSSR.

STEPANOV, B.I.; RUBINOV, A.N.; MIKHNOV, S.A.

Determining the parameters of losses on a ruby laser. Dokl. AN  
BSSR 9 no.6:367-371 Je '65. (MIRA 18:9)

1. Institut fiziki AN BSSR.

STEPANOV, B.I.; KRAVTSOV, L.A.; RUBINOV, A.N.

Sensitivity of the universal relationship between absorption and luminescence spectra of complex molecules to the presence of admixtures. Dokl. AN Bssr 6 no.1;14-18 Ja '62. (MIRA 15:2)

1. Institut fiziki AN BSSR.  
(Molecular spectra)

IVANOV, A.P.; RUBINOV, A.N.

Choice of optimum operating conditions for flash bulbs for attaining  
the maximum disturbance of thermodynamic equilibrium in a substance.  
Dokl. AN BSSR 7 no.11:746-751 N '63. (MIRA 17:9)

1. Institut fiziki AN BSSR. Predstavлено академиком AN BSSR  
B.I. Stepanovym.

GOMEL'SKIY, M.S.; GANICH, P.Ya.; ZEGE, E.P.; IVANOV, A.P.; RUBINOV, A.N.

Use of quartz glass in manufacturing instruments for spectrum analy-  
sis. Dokl. AN BSSR 6 no.12:772-776 D '62. (MIRA 16:9)

1. Institut fiziki AN BSSR. Predstavлено академиком AN BSSR B.I.  
Stepanovym.

S/051/62/012/005/016/021  
E039/E120

AUTHORS: Kravtsov, L.A., and Rubinov, A.N.

TITLE: The influence of admixtures on the realisation of a universal relation between absorption and luminescent spectra of complex molecules

PERIODICAL: Optika i spektroskopiya, v.12, no.5, 1962, 636-639

TEXT: The difference between experimental values of temperature and values calculated from B.I. Stepanov's theoretical relation between luminescent and absorption spectra was thought to be due to the presence of admixtures. In this paper are described the results of an investigation of the effect of admixtures on the above relation. A theoretical treatment of the relation between luminescent and absorption spectra for a mixture of two substances, one of which is luminescent, gives a value  $\Delta T$  for the difference between the temperature  $T'$  calculated from the universal relation and the experimental value  $T$ . The sensitivity of this universal relation to changes in concentration of admixture is also derived. The theoretical expressions are fully confirmed by experiments on solutions of pure

Card 1/2

S/051/62/012/005/016/021  
E039/E120

The influence of admixtures on ...

3-aminophthalimide and erythrosine B with suitable admixtures.

Graphs of the function

$$F'(v) = 3 \ln v - \ln \frac{W_v^{\text{lum}}}{\chi_v^{\text{meas}}}$$

are plotted for different relative concentrations of admixture ( $\chi_v^{\text{meas}}$  is the measured value of the absorption coefficient for solutions of 3-aminophthalimide with admixtures of chlorophyll a;  $W_v^{\text{lum}}$  is luminescent power). Linear relationships are obtained at all concentrations. The minimum detectable concentration of chlorophyll a is 0.1 for a value of  $\Delta T = 9^\circ$ . As the concentration is increased a break occurs in the  $F'(v)$  relation, the position of which remains practically unchanged for further increase in concentration of admixture. Analogous results are presented for erythrosine B with an admixture of blue dye.

There are 2 figures.

SUBMITTED: August 22, 1961

Card 2/2

L 17309-63

EWT(1)/BDS AFFTC/ASD/IJP(C)/SSD

ACCESSION NR: AP3005998

8/0250/63/007/003/0524/0527

36  
54

AUTHOR: Rubinov, A. N.; Ivanov, A. P.

TITLE: Pulse lamp parameter determination by observation of nonlinear optical phenomena

SOURCE: AN BSSR. Doklady\*, v. 7, no. 8, 1963, 524-527

TOPIC TAGS: pulse lamp parameter, pulse lamp efficiency, pulse lamp parameter determination, pulse lamp temperature determination, pulse lamp temperature, pulse lamp efficiency determination

ABSTRACT: A simple method is presented for determination of the temperature and efficiency of a high-power light source from its effect on the absorption capacity and luminescence of an irradiated sample substance. It is assumed that the efficiency factor remains practically constant during small changes in the voltage applied to the lamp. The spectral density of radiation of the sample in its absorption wavelength can be determined experimentally by measuring the intensity of the phosphorescence of the sample at any voltage, thus obtaining the ratio of corresponding luminescence intensities. By the method

Card 1/2

L 17309-63  
ACCESSION NR: AP3005998

described, the temperature of the source may be determined from the voltage ratio and the efficiency factor, from this temperature. The results obtained are in fair agreement with experimental data and with data in the literature. The same method can be used for determination of such other characteristics of the lamp as 1) the portion of energy focused on the sample and 2) the ratio of energy absorbed by the sample to that emitted by the lamp. It was determined that the former does not depend on voltage; its value for a small ruby, with an imperfect lighting system, was found to be 0.2%. The second parameter was slightly dependent on the voltage, and its value varied between 0.074 and 0.092%. The paper was presented by Academician B. I. Stepanov. Orig. art. has: 1 figure and 15 formulas.

ASSOCIATION: Institut fiziki AN BSSR (Institute of Physics, AN BSSR)

SUBMITTED: 15May63

DATE ACQ: 11Sep63

ENCL: 00

SUB CODE: PH

NO REP SOV: 002

OTHER: 000

Card 2/2

REF ID: A64065 SWG(j)/EWA(k)/FBD/S&T(1)/EEC(k)-2/EEC(t)/EEC(b)-2/T/EWP(k)/EWA(h)  
AP4048750 1000 1000 005/0759/0764 ~1

TOPIC: laser, three level laser, laser pumping, laser energy,  
laser material

ABSTRACT: The previously developed methods for determining the thresh-

Card 1/2

L 54044-65

ACCESSION NR: AP4048750

Different levels to discussed. The authors thank B. I. Stepanov for  
2 figures

"APPROVED FOR RELEASE: 08/22/2000

CIA-RDP86-00513R001445820001-6

ASSOCIATION: none

SUBMITTED: 08Jul63

ENCL: 00

SUB CODE: EC

ATD PRESS: 3152

Card 2 / 2

APPROVED FOR RELEASE: 08/22/2000

CIA-RDP86-00513R001445820001-6"

RUBINOV, A.N.; IVANOV, A.P.

Determining the self-excitation threshold of a three-level  
laser. Opt. i spektr. 17 no.5:759-764 N '64.  
(MIRA 17:12)

L 23479-66 EEC(k)-2/EWA(h)/EWP(k)/EWT(l)/FBD/T IJP(c) WU

ACC NR: AP6010445

SOURCE CODE: UR/0368/66/004/003/0222/0229

47

B

AUTHOR: Stepanov, B. I.; Rubinov, A. N.

ORG: none

TITLE: The effect of shifting of the Stokes component on the operating frequency of a laser

SOURCE: Zhurnal prikladnoy spektroskopii, v. 4, no. 3, 1966, 222-229

TOPIC TAGS: laser, stimulated emission, laser theory, laser cavity, rate equation

ABSTRACT: The dependence of the oscillation frequency on the shifting of the Stokes component of absorption and emission spectra of a three-level (electronic-vibrational) system was investigated using appropriate rate equations. It is shown that the oscillation frequency of a laser with an equilibrium distribution of particles depends on the radiation losses in the laser and can be varied by changing the Q of the cavity. An expression is derived for the temperature dependence of the oscillation frequency of such a laser. Orig. art. has 22 formulas and 4 figures.

[CS]

SUB CODE: 20/ SUBM DATE: 21Aug65/ ORIG REF: 006/

Card 1/1-80

UDC: 535.89

L-47574-66 EWT(1)/T IJP(c)

ACC NR: AP6032442

SOURCE CODE: UR/0368/66/005/003/0294/0301

41  
BAUTHOR: Rubinov, A. N.; Mikhnov, S. A.

ORG: none

TITLE: Special features of generation in a binary mixture of particles with overlapping emission spectra

SOURCE: Zhurnal prikladnoy spektroskopii, v. 5, no. 3, 1966, 294-301

TOPIC TAGS: laser theory, two component mixture, active material, laser material,  
Emission Spectrum, PARTICLE PRODUCTION

ABSTRACT: Probability methods were used in a theoretical study of generation in a two-component system of particles with overlapping emission spectra. It was shown that a specific generation frequency exists for each pumping intensity. Several cases of simultaneous generation at two frequencies were considered. The effect of energy transfer from one kind of particles to the other on the extent of variation in generation frequency was evaluated. The dependence of the working frequency on the pumping intensity can be used in practice as a means of modulating the laser output frequency. The study can also be used to explain the generation frequency instability in cases of heterogeneous active centers. Orig. art. has: 4 figures [YK] and 9 formulas.

SUB CODE: 20/ SUBM DATE: 13Jan66/ ORIG REF: 002/ OTH REF: 003/ ATD PRESS:

5092

Card 1 / 1

UDC: 535.89

I 33341-66 EEC(k)-2/EWP(k)/EWT(l)/EWT(m)/FBD/T/EWP(e) IJP(c) WH/WG  
ACC NR: AP6006961 SOURCE CODE: UR/0368/66/004/002/0122/0128

AUTHOR: Stepanov, B. I.; Mikhnov, S. A.; Rubinov, A. N.

57

B

ORG: None

TITLE: Experimental comparison of different methods of determining the loss parameter in quantum generators on neodymium glass

SOURCE: Zhurnal prikladnoy spektroskopii, v. 4, no. 2, 1966, 122-128

TOPIC TAGS: laser theory, neodymium laser, quantum generator

ABSTRACT: Quantum generators have a very low efficiency coefficient, due mostly to the losses of the generated emission in the resonator owing to diffraction, inactive absorption, and dispersion. In theory, all of these losses are described by a single parameter which is one of the most important characteristics of the generator. Two methods for determining this parameter have been described elsewhere. The present article makes a comparison and an experimental verification of different methods of determining the loss parameters in neodymium lasers, approximately described by means of a four-level scheme. Orig. art. has: 4 figures and 7 formulas.

09/  
SUB CODE: 20 / SUBM DATE: 11Aug65 / ORIG REF: 008

Card 1/1

DY

UDC 535.89

RUBINOV, A.N.

Energy balance in ruby excited by high-power light pulses. Zhur.  
prikl. spekt. 2 no.6:495-503 Je '65. (MIRA 18:7)

L 64007-65 ENA(k)/FBD/EIT(1)/ENP(e)/EWT(m)/EEC(k)-2/ENF(i)/T/EEC(b)-2/ENP(k)/ENI(h)/  
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UR/0020/65/162/005/1030/1033 13

AUTHOR: Stepanov, B. I. <sup>44</sup> (Academician AN BSSR); Rubinov, A. N.; Mikhnov, S. A. <sup>44</sup>

TITLE: Effect of noise radiation on the operation of a ruby laser

SOURCE: AN SSSR. Doklady, v. 162, no. 5, 1965, 1030-1033 15

TOPIC TAGS: ruby laser, laser efficiency, laser loss, laser noise, ...

z5,44

ABSTRACT: The authors consider a method which makes it possible to calculate the intensity of the noise in a ruby laser from experimental measurements of the level populations and of the relative pump power. The noise radiation is represented in the form of a sum of the luminescence power and the scattered radiation power, and the absolute values of the radiation density inside the ruby is determined separately for the components due to luminescence, generation, and scattered generation. By introducing a loss factor, which can be determined by a method proposed by the authors elsewhere (Dokl. AN BSSR v. 2, no. 2, 1965), the authors reduce the determination of the power components to a determination of flux densities. The latter can be obtained from the energy balance equations and from knowledge of the ratio of the level populations. The procedure was used to determine the main char-

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tal in the form of a cylinder 48 mm long and 8 mm in diameter. Plots of the flux densities as functions of the loss factor are presented. Conditions under which the noise density becomes appreciable, and even exceeds the useful radiation density, are indicated. Orig. art. has: 2 figures and 12 formulas. [02]

ASSOCIATION: Institut fiziki Akademii nauk BSSR (Physics Institute, Academy of Sciences, BSSR) 44

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ACCESSION NR: AP5C17695 UR/0250/65/009/006/0367/0571

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B

AUTHOR: Stepanov, B. I.; Rubinov, A. N.; Mikhnov, S. A.

TITLE: Determination of the parameters of ruby<sup>b</sup> laser losses

SOURCE: AN BSSR. Doklady, v. 9, no. 6, 1965, 367-371<sup>25, 44</sup>

TOPIC TAGS: laser, ruby laser, level population, laser loss, noise loss

ABSTRACT: The authors determined experimentally the main parameters of a ruby laser, characterizing the loss of generated radiation. The investigation is based on the theoretical premises developed in earlier papers (ZhPS v. 1, no. 1, 35, 1964; DAN BSSR v. 6, 147, 1962). Some results of earlier measurements (ZhPS v. 1, 3, 210, 1964) were also employed. Pink ruby and a resonator with plane removable mirrors were used. The behavior of the population of the metastable level of the ruby was investigated by oscillographic measurements of the time variation of  $\log(T/T^0) = c(n_2/n)$  ( $T$  - transmission,  $T^0$  - transmission without pumping,  $c$  - coefficient,  $n_2/n$  - relative population of metastable level). The tests showed that the population saturates not at the start of lasing, but somewhat later, and that the pump power affects only the time interval between the start of lasing and the establishment of constant population. This behavior is attributed to the optical nonlinearity of the ruby. Another characteristic studied was the ratio of the

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noise radiation flux per unit surface to the noise per unit volume, which is found to range from 0.467 to 0.518, depending on the power loss coefficient. Orig. art. [02] has: 2 figures, 7 formulas, and 1 table.

ASSOCIATION: Institut fiziki AN BSSR (Institute of Physics, AN BSSR) 44

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